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REMARKS

This Amendment is responsive to the Final Office Action dated May 19, 2004 in the above identified application for United States Patent. All rejections and objections of the Examiner are respectfully traversed. Reconsideration and further examination is respectfully requested.

The Examiner requested that the non-elected claims be cancelled. Accordingly, the non-elected claims 21-31 have been cancelled without prejudice or dedication herein.

The Examiner rejected claims 1-7, 10-16 and 19-20 as being obvious under 35 U.S.C. 103, citing the article "Active Storage Nets" by David Nagle ("Nagle"), in combination with "The Fibre Channel Versus Ethernet Debate: How Many Angels can Dance On the Head of A Pin" by Kumar et al. ("Kumar et al."). Applicants respectfully traverse this rejection.

Nagle discloses a combination of active storage networks with network attached secure disks (NASDs). The Nagle system includes client systems communicating with one or more NASDs through active routers, and potentially also through one or more active switch and/or active hub devices. Nagle discloses that one or more Storage Area Networks (SANs) can be used to interconnect the devices through the Nagle system, to provide data transfers between the client systems and the network attached storage devices. As recognized by the Examiner, Nagle provides no teaching of any system or method that includes encapsulating non-network protocol transactions into network protocol data units.

Kumar et al. discuss the differences between and comparative performance of SCSI over IP networks and Fibre Channel networks. Kumar et al. describe Fibre Channel as a "serial extension" of SCSI, as well as the possibility of providing Internet Protocol (IP) communications

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over Fibre Channel. Kumar et al. discuss Fiber Channel as an example of a Storage Area Network, as opposed to Network Attached Storage (NAS), which provides storage services over IP networks.

Nowhere in the combination of Nagle and Kumar et al. is there disclosed or suggested any system or method for facilitating operations related to data storage between a first device and at least one data storage unit in a computer network, including:

a filesystem that indicates location of data stored on at least one data storage unit,
and
circuitry that *processes network protocol data units associated with the operations based on storage services protocol set information to facilitate transmission of the data unit, wherein said processing of the protocol data units includes encapsulating non-network protocol transactions into a payload portion of each of the network protocol data units.* (emphasis added)

as in the present independent claims 10 and 1. In contrast with the claimed encapsulation features, and as noted in the previous response, Nagle teaches using *protocol conversion* between network protocols. As shown in Fig. 7 on page 4 of Nagle, the Active Router is described as performing a *conversion* from LAN (Local Area Network) to SAN (Storage Area Network) protocols. In similar contrast with the present independent claims 10 and 1, Nagle teaches the caching of data from an NASD in an Active Router device in Fig. 8 on page 4, so that a client directly *accesses the cached data* in the Active Router using the SAN protocol. Nagle includes no hint or suggestion of even the desirability of providing for encapsulation of one or more non-network protocol transactions into one or more network protocol data units processes network protocol data units while processing network protocol data units associated with operations based on storage services protocol set, as in the present independent claims 10 and 1.

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Kumar et al. also provides no hint or suggestion of encapsulation of one or more non-network protocol transactions into one or more network protocol data units processes network protocol data units while processing network protocol data units associated with operations based on a storage services protocol set, as in the present independent claims 10 and 1. In clear contradistinction, Kumar et al. states the following when comparing Fibre Channel with Ethernet:

Fibre Channel . . . carries more payload per second, and has inherently lower latency. However, much of this comes from the extra hardware in the NICs and switches. Even so, Fiber Channel does win out, *because the software protocol stack is smaller.* (emphasis added)

Thus Kumar et al. teach that the protocol stacks of Fibre Channel and Ethernet are separate and distinct options to be considered, as opposed to the encapsulation features of the present independent claims 10 and 1. Moreover, Kumar et al. include no recognition of any need to combine any kind of non-network protocol transaction or message, such as a SAN Fibre Channel transaction or method, into an Ethernet or other type of network protocol data unit. Kumar et al. expressly rule out the possibility of any such combination as follows:

Given the convergence of hardware sophistication, are we moving to a level pinhead? Sadly the answer is "NO!" *The two communities are not willing to merge, and enough equipment is designed and deployed to make any likely technical convergence moot.* Fibre Channel and Gigabit Ethernet are here to stay! (emphasis added)

These are just some examples of the parts of Kumar et al. that in fact teach away from the idea of the present independent claims 10 and 1, which feature encapsulating non-network protocol

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transactions into network protocol data units when processing operations associated with a storage services protocol set.

For the above reasons, Applicants respectfully submit that the combination of Nagle and Kumar et al. does not disclose or suggest all the features of the present independent claims 10 and 1. Accordingly, the combination of Nagle and Kumar et al. does not form the basis of a *prima facie* case of obviousness with regard to the present independent claims 10 and 1 under 35 U.S.C. 103. As to claims 2-7, 11-16 and 19-20, they each depend from claims 10 and 1, and are respectfully believed to be patentable over the combination of Nagle and Kumar et al. for at least the same reasons.

The Examiner also rejected claims 8-9 and 17-18 for obviousness under 35 U.S.C. 103, again citing the combination of Nagle and Kumar et al., and further citing sections from Chapter 7 of "Security in Computing" by Pfleeger ("Pfleeger"). Applicants respectfully traverse this rejection.

As noted in the previous response, Pfleeger generally describes the principles underlying design of trusted operating systems, and lists auditing and logging within the security features of trusted operation systems. Like Nagle and Kumar et al., Pfleeger includes no disclosure or suggestion of any system or method for facilitating operations related to data storage between a first device and at least one data storage unit in a computer network, including:

a filesystem that indicates location of data stored on at least one data storage unit,
and

circuitry that processes network protocol data units associated with the *operations based on storage services protocol set information to facilitate transmission of the data unit, wherein said processing of the protocol data units includes encapsulating non-network protocol transactions into a payload portion of each of the network protocol data units.* (emphasis added)

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as in the present independent claims 1 and 10, from which claims 8-9 and 17-18 depend. The Pfleeger reference is not specifically directed towards providing storage information over a network, and does not present solutions specific to moving storage transactions through disparate protocols in a networked environment.

For the above reasons, Applicants respectfully urge that the combination of Nagle, Kumar et al. and Pfleeger does not disclose or suggest all the features of the present independent claims 1 and 10, from which claims 8-9 and 17-18 depend. Accordingly, the combination of Nagle, Kumar et al. and Pfleeger does not support a *prima facie* case of obviousness under 35 U.S.C. with regard to the present independent claims 1 and 10. As claims 8-9 and 17-18 depend from claims 1 and 10, they are respectfully believed to be patentable over the combination of Nagle, Kumar et al. and Pfleeger for at least the same reasons.

Reconsideration of all pending claims and withdrawal of all rejections are respectfully requested.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone David A. Dagg, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

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For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

David A. Dagg
David A. Dagg, Reg. No. 37,899
Attorney/Agent for Applicant(s)
Steubing McGuinness & Manaras LLP
125 Nagog Park Drive
Acton, MA 01720
(978) 264-6664

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